

GLYFOS

Page: 1

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Revision No: 2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: GLYFOS

Product code: 4510

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: Can be used as herbicide only.

1.3. Details of the supplier of the safety data sheet

Company name: Headland Agrochemicals

Rectors Lane

Pentre

Flintshire

CH5 2DH

United Kingdom

Tel: +44(0)1244 537370

Fax: +44(0)1244 532097

Email: enquiry@headlandgroup.com

1.4. Emergency telephone number

Emergency tel: +44(0)1244 537370

(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP:	N: R50/53
Classification under CLP:	* Aquatic Acute 1: H400; Aquatic Chronic 2: H411; -: EUH401
Most important adverse effects:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic
	environment.

2.2.	Label	elements
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Label elements under CLP:	
Hazard statements:	* H400: Very toxic to aquatic life.
	H411: Toxic to aquatic life with long lasting effects.
	EUH401: To avoid risks to human health and the environment, comply with the
	instructions for use.
Signal words:	* Warning
Hazard pictograms:	* GHS09: Environmental

GLYFOS

Page: 2



Precautionary statements:	* P273: Avoid release to the environment.
	P391: Collect spillage.
	P501: Dispose of contents/container to hazardous or special waste collection point.
Label elements under CHIP:	
Hazard symbols:	Dangerous for the environment.
Risk phrases:	R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the
	aquatic environment.
Safety phrases:	S2: Keep out of the reach of children.
	S23: Do not breathe spray.
	S29: Do not empty into drains.
	S60: This material and its container must be disposed of as hazardous waste.
	S61: Avoid release to the environment. Refer to special instructions / safety data sheets.
Precautionary phrases:	To avoid risks to man and the environment, comply with the instructions for use.
2.3. Other hazards	

PBT: This product is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

GLYPHOSATE ISOPROPYLAMINE SALT

EINECS	CAS	CHIP Classification	CLP Classification	Percent
254-056-8	38641-94-0	N: R51/53	Aquatic Chronic 2: H411	30-50%

TALLOW ALKYLAMINE ETHOXYLATE

	Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Irrit. 2: H319; Aquatic Acute 1: H400	5-10%
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Section 4: First aid measures

4.1. Description of first aid measures

- Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. Consult a doctor if irritation develops.
 Eye contact: Bathe the eye with running water for 15 minutes. Remove contact lenses, if present, after
 - the first few minutes, then continue rinsing. Transfer to hospital for specialist examination.

GLYFOS

Ingestion:	Wash out mouth with water. Do not induce vomiting. Drink several glasses of water or				
	milk. If vomiting occurs, rinse mouth and drink fluids again. Consult a doctor.				
Inhalation:	Remove casualty from exposure ensuring one's own safety whilst doing so. Light cases:				
	Keep person under surveillance. Get medical attention immediately if symptoms				
develop. Serious cases: Get medical attention immediately or call for an ambulance.					
4.2. Most important sympton	is and effects, both acute and delayed				
Skin contact:	There may be mild irritation at the site of contact.				
Eye contact:	The product is moderately to severely irritating to eyes.				
Ingestion:	No significant adverse effects are expected to develop if only small amounts (less than a				
	mouthful) are swallowed. Ingestion of similar formulations has been reported to				
	produce gastrointestinal discomfort with nausea, vomiting and diarrhoea. Ingestion of				
	large quantities of a similar product has been reported to result in hypotension and lung				
	oedema.				
Inhalation:	No sensitisation effects have been observed.				
Delayed / immediate effects:	No data available.				
4.3. Indication of any immed	ate medical attention and special treatment needed				
Immediate / special treatment:	* Immediate medical attention is required in case of ingestion or eye contact. The				
irritating effects of this product can be treated as usual against effects of acids or acid					
	fumes. Possible mucosal damage may contraindicate the use of gastric lavage.				
Section 5: Fire-fighting meas	sures				
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5.1. Extinguishing media					
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5.1. Extinguishing media Extinguishing media: 5.2. Special hazards arising f	* Carbon dioxide. Dry chemical powder. Water spray. Foam. Avoid heavy hose streams. Use water spray to cool containers. rom the substance or mixture				
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5.1. Extinguishing media Extinguishing media: 5.2. Special hazards arising t Exposure hazards: 5.3. Advice for fire-fighters	* Carbon dioxide. Dry chemical powder. Water spray. Foam. Avoid heavy hose streams. Use water spray to cool containers. From the substance or mixture In combustion emits toxic fumes. The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides.				
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5.1. Extinguishing media Extinguishing media: 5.2. Special hazards arising f Exposure hazards: 5.3. Advice for fire-fighters Advice for fire-fighters: Section 6: Accidental release	* Carbon dioxide. Dry chemical powder. Water spray. Foam. Avoid heavy hose streams. Use water spray to cool containers. rom the substance or mixture In combustion emits toxic fumes. The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water run off. Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.				
5.1. Extinguishing media Extinguishing media: 5.2. Special hazards arising f Exposure hazards: 5.3. Advice for fire-fighters Advice for fire-fighters: Section 6: Accidental release 6.1. Personal precautions, press	* Carbon dioxide. Dry chemical powder. Water spray. Foam. Avoid heavy hose streams. Use water spray to cool containers. rom the substance or mixture In combustion emits toxic fumes. The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water run off. Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.				

leak-side up to prevent the escape of liquid. In the case of large spills, (1 ton or more)

alert the appropriate authorities.

SAFETY DATA SHEET GLYFOS

	Pag	ge: 4			
6.2. Environmental precaution	ns				
Environmental precautions:	* Do not discharge into drains or rivers. Contain the spillage using bunding. Accidental				
	release into water courses must be alerted to the appropriate regulatory body.				
6.3. Methods and material for	containment and cleaning up				
Clean-up procedures: * Surface water drains within close vicinity of the spill should be covered. Spills on the					
	floor or other impervious surface should be absorbed onto an absorptive material such				
as hydrated lime, universal binder, or other absorbent clays. Collect the contamina					
absorbent in suitable containers. Rinse the area with water and industrial detergent.					
	Absorb wash liquid onto absorbent and transfer to suitable containers. Spills which				
	soak into the ground should be dug up and placed in suitable containers. Spills in water				
	should be contained as much as possible by isolation of the contaminated water. The				
	contaminated water must be collected and removed for treatment or disposal. Refer to				
	section 13 of SDS for suitable method of disposal.				
6.4. Reference to other section	ons				
Reference to other sections:	Refer to section 8 of SDS. Refer to section 13 of SDS.				
ection 7: Handling and stor	age				
7.1. Precautions for safe hand	dling				
Handling requirements: Ensure there is sufficient ventilation of the area. Exhaust gases should be filtered or					
	treated otherwise. Avoid direct contact with the substance. Material should be handled by				
	mechanical means as much as possible. Wash thoroughly after handling. Remove				
	contaminated clothing immediately, then wash thoroughly and put on clean clothes.				
	Collect all wash water and dispose of as hazardous waste.				
7.2. Conditions for safe stora	ge, including any incompatibilities				
Storage conditions:	* Keep container tightly closed. The storage room should be constructed of				
	incombustible material, closed, dry, ventilated and with impermeable floor. The room				
	should only be used for storage of chemicals, and without access to unauthorised				
	persons or children. Food, drink, feed and seed should not be present. A hand wash				
Critable sector	station should be available.				
Suitable packaging:	* The product, or its spray solutions, should be mixed, stored or applied using only				
	stainless steel, aluminium, fiberglass, plastic or plastic-lined containers. See				
	subsection 10.5.				
7.3. Specific end use(s)					
Specific end use(s):	This product is a registered pesticide, which may only be used for the applications it is				
	registered for, in accordance with a label approved by the regulatory authorities.				

GLYFOS

8.1. Control parameters

Workplace exposure limits: No data available.

8.1. DNEL/PNEC Values

DNEL / PNEC No data available.

Engineering measures: * When used in a closed system, personal protection equipment will not be required.	
Engineering measures. When used in a closed system, personal protection equipment will not be required.	
The following is meant for other situations, when the use of a closed system is not	
possible, or when it is necessary to open the system. Consider the need to render	
equipment or piping system non-hazardous before opening.	
Respiratory protection: The product is not likely to present an airborne exposure concern during normal	
handling, but in the event of a discharge of the material which produces a heavy vapour	
or mist, workers should put on officially approved face mask or respiratory protection:	
Respiratory protection with universal filter type, including particle filter.	
Hand protection: * Wear heavy duty natural rubber gloves. The breakthrough time of these gloves for the	
product is unknown, but it is expected that they will give adequate protection. Replace	
gloves frequently and limit work done manually.	
Eye protection: * Face-shield. Ensure eye bath is to hand.	
Skin protection: * Waterproof pants and apron of chemical resistant material or coveralls with	
polyethylene (PE) coating will be sufficient for short time exposure. Coveralls must be	
discarded after use if contaminated. In cases of prolonged exposure, barrier laminate	
coveralls may be required.	
Environmental: Refer to specific Member State legislation for requirements under Community	
environmental legislation.	
Section 9: Physical and chemical properties	

9.1. Information on basic phy	vsical and chemical properties		
State:	Liquid		
Colour:	Pale yellow		
Odour:	Barely perceptible odour		
Oxidising:	Non-oxidising (by EC criteria)		
Solubility in water:	Miscible		
Viscosity:	43 mm²/s at 20°C; 18 mm²/s at 40°C		
Boiling point/range°C:	113	Melting point/range°C:	<0
Flash point°C:	>113	Relative density:	1.165 g/ml at 20°C
pH:	4.5 (1% aq. soln)		

9.2. Other information

Other information: No data available.

GLYFOS

Section 10: Stability and reactivity

0.1. Reactivity					
Reactivity:	Stable under recommended transport or storage conditions. stable at ambient				
nouotingi					
	temperatures.				
10.2. Chemical stability					
Chemical stability:	Stable under normal conditions.				
10.3. Possibility of hazardous	s reactions				
Hazardous reactions:	The product can react with caustic (basic) materials in an acid-base chemical				
	neutralisation reaction which may be hazardous because of heat release.				
10.4. Conditions to avoid					
Conditions to avoid:	Heat.				
10.5. Incompatible materials					
Materials to avoid:	Do not mix, store or apply this product or spray solutions of this product in galvanised or				
	unlined steel containers or spray tanks. Stainless steel may be used. This product or its				
	spray solutions can react with such containers and tanks to produce hydrogen gas				
	which may form a highly combustible gas mixture with air. This gas mixture could flash				
	or explode if ignited, causing serious personal injury.				

TO.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes. See subsection 5.2.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
ORAL	RAT	LD50	>5000	mg/kg
DERMAL	RAT	LD50	>2000	mg/kg
DUST/MIST	RAT	4H LC50	>4.86	mg/l

Hazardous ingredients:

GLYPHOSATE ISOPROPYLAMINE SALT

DERMAL	RAT	LD50	>4000	mg/kg
DUST/MIST	RAT	4H LC50	>4.72	mg/l
ORAL	RAT	LD50	>2000	mg/kg

GLYFOS

Page: 7

TALLOW ALKYLAMINE ETI	IOXYLATE			
ORAL	RAT	LD50	1569	mg/kg
Symptoms / routes of exposu	re			
Skin contact:	There may be mild irritation	on at the site of contac	ot.	
Eye contact:	The product is moderately to severely irritating to eyes.			
Ingestion:	No significant adverse effects are expected to develop if only small amounts (less than a			
	mouthful) are swallowed.	Ingestion of similar for	rmulations has been	reported to
	produce gastrointestinal discomfort with nausea, vomiting and diarrhoea. Ingestion of			
	large quantities of a similar product has been reported to result in hypotension and lung			
	oedema.			
Inhalation:	No sensitisation effects ha	ave been observed.		
Delayed / immediate effects:	No data available.			
ction 12: Ecological information				

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
HONEYBEES (Apis mellifera)	48H LD50	>359 (oral)	µg/bee
JAPANESE QUAIL (Coturnix japonica)	LD50	1900	mg/kg
EARTHWORMS (Eisenia foetida)	14 day LC50	>1000	mg/kg soil
DUCKWEED (Lemna sp.)	7 day EC50	27	mg/l
MARINE ALGAE (Skeletonema costatum)	96H EC50	0.340	mg/l
GREEN ALGA (Selenastrum capricornutum)	72H IC50	2.0	mg/l
DAPHNIDS (Daphnia magna)	48H EC50	21.6	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	21 day NOEC	0.43 - 0.81	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	18.6	mg/l

12.2. Persistence and degradability

12.3. Bioaccumulative potent	ial
	- 30 days in aerobic soil and water.
	half-lives in the environment vary much with the circumstances, but are usually around 3
	microbiological and aerobic, but anaerobic degradation does also occur. Degradation
	concentrations up to 100mg/l in waste water treatment plants. Degradation is mainly
	environment and in waste water treatment plants. No adverse effects are found at
Persistence and degradability:	Glyphosate is not readily biodegradable. It undergoes slow degradation in the

Bioaccumulative potential: Glyphosate: log Kow = -3.3. Glyphosate is not expected to bioaccumulate. In several studies on bioaccumulation of glyphosate, both in marine and freshwater systems, only low bioaccumulation factors were found.

GLYFOS

12.4. Mobility in soil

Mobility: In the envoronment glyphosate is not mobile, but is rapidly deactivated by adsorption to clay particles. Glyphosate binds strongly to soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations:	* Waste that cannot be reused or chemically reprocessed can be disposed of by
	removal to a licensed chemical destruction plant or by controlled incineration with flue
	gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or
	disposal. Do not discharge to sewer systems.
Disposal of packaging:	* Triple rinse (or equivalent) and offer for recycling or reconditioning. Treat the cleaning
	water following the above method for waste product. Controlled incineration with flue
	gas scrubbing is possible for combustible packaging materials. Alternatively, packaging
	can be delivered to a licensed service for disposal of hazardous waste.
NB:	The user's attention is drawn to the possible existence of regional or national
	regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3082

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(GLYPHOSATE ISOPROPYLAMINE SALT)

14.3. Transport hazard class(es)

Transport class: 9

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6. Special precautions for user

Special precautions: Do not discharge to the environment.

GLYFOS

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk: The product is not transported in bulk tankers.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Seveso category in Annex I to Dir. 2012/18/EU: dangerous for the environment. All ingredients in this product are covered by EU chemical legislation. Product Registration Number: MAPP 10995.

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information:	This safety data sheet is prepared in accordance with Commission Regulation (EU) No
	453/2010.
	* indicates text in the SDS which has changed since the last revision.
Phrases used in s.2 and 3:	EUH401: To avoid risks to human health and the environment, comply with the
	instructions for use.
	H302: Harmful if swallowed.
	H315: Causes skin irritation.
	H319: Causes serious eye irritation.
	H400: Very toxic to aquatic life.
	H411: Toxic to aquatic life with long lasting effects.
	R22: Harmful if swallowed.
	R36/38: Irritating to eyes and skin.
	R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the
	aquatic environment.
	R50: Very toxic to aquatic organisms.
	R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic
	environment.
Legal disclaimer:	The above information is believed to be correct but does not purport to be all inclusive
	and shall be used only as a guide. This company shall not be held liable for any
	damage resulting from handling or from contact with the above product.